

Carpentry

Levels: Grades 10-12
Units of Credit: 1.0 credit
CIP Code: 46.0201
Prerequisite: None

CORE STANDARDS, OBJECTIVES AND INDICATORS

STANDARD **Students will receive an orientation to the carpentry trade**
460201-01

OBJECTIVES

460201-0101 Explain the importance of safety in the construction industry.

STANDARD **Students will be able to understand and demonstrate the**
460201-02 **use of wood building materials, fasteners and adhesives.**

OBJECTIVES

460201-0201 Explain the terms commonly used in discussing wood and
lumber.
460201-0202 Identify various types of imperfections that are found in lumber.
460201-0203 Interpret grade markings on lumber and plywood.
460201-0204 Identify the uses of and safety precautions associated with
pressure-treated lumber.
460201-0205 Describe the proper method of caring for lumber and wood
building materials at the job site.
460201-0206 State the uses of various types of engineered lumber.
460201-0207 List the basic nail and staple types and their uses.
460201-0208 Identify the different types of anchors and their uses.
460201-0209 Describe the common types of adhesives used in construction
work and explain their uses.

STANDARD **Students will be able to understand and demonstrate the safe use**
260201-03 **of hand and power tools.**

OBJECTIVES

460201-0301 Identify the hand tools commonly used by carpenters and describe
their uses.
460201-0302 Use hand tools in a safe and appropriate manner.
460201-0303 State the general safety rules for operating all power tools, regardless
of type.
460201-0304 State the general rules for properly maintaining all power tools,
regardless of type.
460201-0305 Identify the portable power tools commonly used by carpenters and

460201-0306 describe the uses.
Use potable power tools in a safe and appropriate manner.

STANDARD
460201-04 **Students will be able to understand and demonstrate the uses of concrete and reinforcing materials.**

OBJECTIVES

- 460201-0401 Perform volume estimates for concrete quantity requirements.
460201-0402 Identify types of concrete reinforcement bars and describe their use.
460201-0403 Identify types of reinforcement bar supports and describe their use.
460201-0404 Recognize four kinds of footings:
 - Continuous or spread
 - Stepped
 - Pier
 - Grade beam
- 460201-0405 Identify the parts of footing forms and explain their purpose.
460201-0406 Identify the parts of pier forms and explain their purpose.
460201-0407 Recognize types of concrete pours that require the construction of edge forms:
 - Slabs with or without a foundation
 - Driveways
 - Sidewalks
 - Approaches
- 460201-0408 Identify the parts of edge forms and explain their purpose.
460201-0409 Explain the purpose of a screed and identify the different types of screeds.
- 460201-0410 Demonstrate the ability to set screeds on grade.
460201-0411 Identify the various types of concrete forms.
460201-0412 Identify the components of each type of form.
460201-0413 Explain the safety procedures associated with using concrete forms.
460201-0414 Erect, plumb, and brace selected concrete forms, including:
 - Basic wall form with walers and strongbacks
 - Ganged wall form
 - Radius wall form
 - Column form
 - Beam form and shoring
 - Stair form

STANDARD
460201-05 **Students will be able to understand and demonstrate framing of flooring systems, wall and ceilings and roofing systems.**

OBJECTIVES

- 460201-0501 Read and understand drawings and specifications to determine floor system requirements.
460201-0502 Identify floor and sill framing and support members.
460201-0503 Name the methods used to fasten sills to the foundation.

460201-0504	List and recognize different types of floor joists
460201-0505	List and recognize different types of flooring materials.
460201-0506	Explain the purposes of subflooring and underlayment.
460201-0507	Match selected fasteners used in floor framing to their correct uses.
460201-0508	Demonstrate the ability to: <ul style="list-style-type: none"> ▪ Layout and construct a floor assembly ▪ Install joists for a cantilever floor ▪ Install a single floor system using tongue and groove plywood/OSB panels
460201-0509	Identify the components of a wall and ceiling layout.
460201-0510	Describe the procedure for laying out a wood frame wall, including plates, corner posts, door and window openings, partition T's, bracing, and firestops.
460201-0511	Describe the correct procedure for assembling and erecting an exterior wall.
460201-0512	Describe the common materials and methods used for installing sheathing on walls.
460201-0513	Layout, assemble, erect, and brace exterior walls for a frame building.
460201-0514	Understand the terms associated with roof framing.
460201-0515	Identify the roof framing members used in gable and hip roofs.
460201-0516	Identify the various types of trusses used in roof framing.
460201-0517	Use a rafter framing square, speed square, and calculator in laying out a roof.
460201-0518	Identify various types of sheathing used in roof construction.
460201-0519	Erect a gable roof using trusses.

STANDARD
460201-06 **Students will be able to understand and demonstrate installation of windows and exterior doors.**

OBJECTIVES

460201-0601	Identify various types of fixed, sliding, and swinging windows.
460201-0602	Identify the parts of a window installation.
460201-0603	State the requirements for a proper window installation.
460201-0604	Install a pre-hung window
460201-0605	Identify the common types of exterior doors and explain how they are constructed.
460201-0606	Identify the types of thresholds used with exterior doors.
460201-0607	Install a pre-hung exterior door with weatherstripping.
460201-0608	Identify the various types of locksets used on exterior doors and explain how they are installed.
460201-0609	Install a lockset.

STANDARD
460201-07 **Students will be able to understand and demonstrate drywall installation and finishing.**

OBJECTIVES

- 460201-0701 Identify the different types of gypsum wallboard (drywall) and their uses.
- 460201-0702 Select the type and thickness of drywall required for specific installations.
- 460201-0703 Select fasteners for drywall installation.
- 460201-0704 Explain the fastener schedules for different types of drywall installations.
- 460201-0705 Perform single-layer and multi-layer drywall installations using different types of fastening systems, including:
- Nails
 - Drywall screws
 - Adhesives
- 460201-0706 Identify the hand tools used in drywall finishing and demonstrate the ability to use these tools.
- 460201-0707 Identify the automatic tools used in drywall finishing.
- 460201-0708 Identify the materials used in drywall finishing and state the purpose and use of each type of material, including:
- Compounds
 - Joint reinforcing tapes
 - Trim materials
 - Textures and coatings

STANDARD 460201-08

Students will be able to understand and demonstrate interior finishing.

OBJECTIVES

- 460201-0801 Identify various types of door jambs and frames and demonstrate the installation procedures for placing selected door jambs and frames in different types of interior partitions.
- 460201-0802 Identify different types of interior doors.
- 460201-0803 List and identify specific items included on a typical door schedule.
- 460201-0804 Demonstrate the procedure for placing and hanging a selected door.
- 460201-0805 Identify the different types of standard moldings and describe their uses.
- 460201-0806 Make square and miter cuts using a miter box or power miter saw.
- 460201-0807 Make coped joint cuts using a coping saw.
- 460201-0808 Install interior trim, including:
- Door trim
 - Window trim
 - Base trim
 - Ceiling trim

PROFESSIONAL DEVELOPMENT

STANDARD 460201-09 **The student will understand the need for professional development.**

OBJECTIVES

- 460201-0901 Complete a personal inventory
- 460201-0902 Set and meet goals
- 460201-0903 Motivate yourself
- 460201-0904 Decision making
- 460201-0905 Manage time
- 460201-0906 Organize personal belongings and lab equipment
- 460201-0907 Communicate verbally
- 460201-0908 Write effective communications
- 460201-0909 Establish a personal reading program
- 460201-0910 Develop effective work skills and attitudes
- 460201-0911* Master a working knowledge of SkillsUSA
 - state the SkillsUSA motto
 - state the SkillsUSA creed
 - learn the SkillsUSA colors
 - describe the official SkillsUSA dress
 - describe the procedure for becoming a SkillsUSA officer

STANDARD 460201-10 **The student will understand the need for leadership skills.**

OBJECTIVES

- 460201-1001 Serve on a committee
- 460201-1002 Prepare an agenda
- 460201-1003 Assist in planning a meeting
- 460201-1004 Review basic parliamentary procedure
 - Make a main motion
- 460201-1005 Participate in a school project
- 460201-1006 Attend a community meeting
- 460201-1007 Practice effective speaking
- 460201-1008 Present a 3-5 minute talk
- 460201-1009 Implement a leadership project
- 460201-1010* Master a working knowledge of SkillsUSA
 - Describe the meaning of the SkillsUSA emblem
 - State the SkillsUSA pledge
 - Describe the duties of a SkillsUSA officer

STANDARD 460201-11 **The student will understand the need for career planning.**

OBJECTIVES

460201-1101	Define your future occupation
460201-1102	Survey employment opportunities
460201-1103	Report on a trade journal article
460201-1104	Explore opportunities for advanced training
460201-1105	Conduct a worker interview
460201-1106	Contact a professional association
460201-1107	Explore entrepreneurship opportunities
460201-1108	Give a talk about your career
460201-1109	Review career goals

**STANDARD
skills.
460201-12**

The student will understand the need for employment

OBJECTIVES

460201-1201	Develop a list of work standards to follow at school and on the job.
460201-1202	Evaluate your personal ethics <ul style="list-style-type: none">▪ Evaluate your personal ethics against acceptable workplace ethics
460201-1203	Build a job search network
460201-1204	Find job leads
460201-1205	Write a resume
460201-1206	Create a job portfolio
460201-1207	Complete a job application
460201-1208	Write a business letter and memo
460201-1209	Participate in an actual or simulated job interview

*SkillsUSA PDP requirements - optional but recommended